

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Irina C. Cotanis et al.)
Serial No.: Not assigned)
Filed: January 20, 2004)
Group No. Not assigned
Examiner: Not assigned

For: **MAPPING OBJECTIVE VOICE QUALITY METRICS TO A MOS DOMAIN FOR FIELD MEASUREMENTS**

M/S PATENT APPLICATION
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

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Type or Print Name <u>William J. Tucker</u>
Signature <u>Will J. Tucker</u>

Dear Sir:

INFORMATION DISCLOSURE STATEMENT

Herewith are Form PTO-1449 and one copy of each document listed thereon (except for patent applications). Attention is also directed to any item(s) designated below:

- _____ 1. A check is enclosed to cover the fee set forth in 37 CFR 1.17(p). Any additional fee required by this paper may be charged to Deposit Account No. 50-1481.
- _____ 2. The undersigned certifies that each enclosed document was cited in a communication from a foreign patent office in a counterpart foreign application not more than three (3) months prior to the filing of the Information Disclosure Statement.
- _____ 3. The relevance of any enclosed non-English language document(s) is concisely explained as follows.

Respectfully submitted,

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Form PTO-1449 Modified List of Patents and Publications Cited by Applicant (Use several sheets if necessary) U.S. Patent Department of Commerce Patent and Trademark Office	Docket No.: P17969-US2	Serial No.: Not Assigned
	Applicant: Irina C. Cotanis et al.	
	Filing Date: January 20, 2004	Group: Not Assigned

U.S. PATENT DOCUMENTS

Examiner Initial		Document No.	Date	Name	Class	Subclass
	A-1	US 2003/0219087 A1	Nov. 27, 2003 (published)	Boland	375	371
	A-2	US 2003/0200303 A1	Oct. 23, 2003 (published)	Chong	709	224
	A-3	US 2003/0093513 A1	May 15, 2003 (published)	Hicks et al.	709	224
	A-4	US 2002/0193999 A1	Dec. 19, 2002 (published)	Keane et al.	704	270
	A-5	US 2004/0002852 A1	Jan. 1, 2004 (published)	Kim	704	205

OTHER DOCUMENTS

Examiner Initials		Author, Title, Date, Pertinent Pages, Etc.
	C-1	International Telecommunication Union, IT-T P.862 "Perceptual Evaluation of Speech Quality (PESQ): An Objective Method for End-to-End Speech Quality Assessment of Narrow-Band Telephone Networks and Speech Codecs" 24 pages, Feb. 2001.
	C-2	Stephen D. Voran "Objective Estimation of Perceived Speech Quality Using Measuring Normalizing Blocks" NTIA Report 98-347, 10 pages, April 1998.
	C-3	Christopher Redding et al. "Voice Quality Assessment of Vocoders in Tandem Configuration" NTIA Report 01-386, 21 pages, April 2001.
	C-4	Timothy A. Hall "Objective Speech Quality Measures for Internet Telephony" in Voice over IP (VoIP) Technology, Petros Mouchtaris, Editor, Proceedings of SPIE Vol. 4522, 9 pages, 2001.
	C-5	Stephen D. Voran "Objective Estimation of Perceived Speech Quality, Part I: Development of the Measuring Normalizing Block Technique" IEEE Transaction on Speech and Audio Processing, July, 1999.

Date Examined:	Examiner:
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FOREIGN PATENT DOCUMENTS						
Examiner Initial		Document No.	Date	Country	Translation	
					Yes	No
OTHER DOCUMENTS						
Examiner Initials		Author, Title, Date, Pertinent Pages, Etc.				
	C-6	Antony Rix et al. "Comparison of Speech Quality Assessment Algorithms: BT PAMS, PSQM, PSQM+ and MNB" ITU-T Delayed Contribution D.80, December 1998.				
	C-7	Antony Rix et al. "Performance Metrics for Objective Quality Assessment Systems in Telephony" ITU-T Delayed Contribution D.79, December 1998.				
	C-8	Antony Rix "A New PESQ-LQ Scale to Assist Comparison Between P.862 PESQ Score and Subjective MOS" ITU-T Delayed Contribution D.86, 2001.				
	C-9	D.J. Atkinson "Additional Detail on MNB Algorithm Performance" ITU-T Delayed Contribution D.029, April 1997.				
	C-10	Antony Rix et al. "Performance of the Integrated KPN/BT Objective Speech Quality Assessment Model" ITU-T Delayed Contribution D.136, May 2000.				
	C-11	J. Holub et al. "Low Bit-Rate Networks-A Challenge for Intrusive Speech Transmission Quality Measurements" (no date--possible prior art).				
	C-12	Antony Rix "Comparison Between Subjective Listening Quality and P.862 PESQ Score" (no date--possible prior art).				
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FOREIGN PATENT DOCUMENTS						
Examiner Initial		Document No.	Date	Country	Translati n	
					Yes	No
OTHER DOCUMENTS						
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	C-13	I. Cotanis "Impacting Factors on the Objective Measurement Algorithms for Speech Quality Assessment on Mobile Networks" IEEE International Conference on Telecommunications, Bucharest, Romania June 2001.				
	C-14	Murray R. Spiegel "Schaum's Outline of Theory and Problems of Statistics Second Edition" pages 196, 208-209, 233-234, 299 and 490, dated 1998.				
	C-15	J. Freund et al. "Dictionary/Outline of Basic Statistics" Dover Publications, Inc., page 109, dated 1966.				
	C-16	J. Mandel "The Statistical Analysis of Experimental Data" pages 393-394, dated 1964.				
Date Examined:						
Examiner:						